AYDIN DISPLAYS

a sparton company

USER'S GUIDE

for the

Model VFP20

20.1 INCH AMLCD FLAT PANEL COLOR MONITOR

Rack Mount
Panel Mount
VESA Mount

Document # 150-VF20-002 Rev 2

January 2014

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NOTICE

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PRODUCT SAFETY PRECAUTIONS

- The socket-outlet of power supply shall be installed near the equipment and shall be easily accessible.
- Follow all warnings and instructions marked on the display.
- Do not attempt to service this display yourself. There are no user replaceable parts inside and removing the display cover or back will expose you to dangerous voltage or other risks. Refer all servicing to qualified service personnel.
- Adequate ventilation must be maintained to ensure reliable and continued operation and to protect the display from overheating. Do not block ventilation slots and openings or install the display in a place where ventilation may be hindered.
- To protect from electrical shock, unplug the display's power supply from the wall outlet before relocating.
- Do not expose this display to direct sunlight or heat. Hot air may cause damage to the cabinet and other parts.
- This display should be operated from the type of power source indicated on the display's rating label.
- Do not allow metal pieces or objects of any kind to fall into the display through the ventilation holes.
- The inside of the fluorescent tube located within the LCD monitor contains mercury. Please follow the bylaws or rules of your municipality to dispose of the tube properly.
- Do not use this display near water.
- Do not place any heavy objects on the power cord. Damage to the cord may cause shock or fire.
- When operating the LCD monitor with its AC 220-240V power supply, use a power cord that matches the power supply voltage of the AC outlet being used. The power supply cord you use must have been approved by and comply with the safety standards of your country.
- In UK, use a BS-approved power cord with molded plug having a black (5A) fuse installed for use with this monitor.
- Unplug this display's power supply from the wall outlet and refer servicing to qualified service personnel in the event that:
    - Power cord or plug is damaged or frayed.
    - Liquid is spilled into the display or the display is exposed to rain or water.
    - The display does not operate normally when the operating instructions are followed.
    - The display has been dropped or the cabinet damaged.
    - The display exhibits a distinct change in performance, indicating a need for service.

Thank you for purchasing the Aydin Displays VECTOR Display.

This carton contains the items listed below:

- VFP 20 LCD Display
- Power cord
- VGA Video Cable HD15(M) to HD15(M)
- CD-ROM with this User's Guide
- Mounting hardware (if applicable)
- Touch accessories (if applicable)

Please check the carton and its content for damage that may have occurred during shipment.

Report any damage to the shipping agent immediately and do not operate the display if it appears to have been damaged. All warranty returns must use the original shipping carton and packaging materials to prevent shipping damage.

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1 Introduction

The Model VFP20 AMLCD Monitor is a 20.1” diagonal display with a native resolution of 1600 x 1200 (UXGA) pixels. Inputs are provided for DVI-D, VGA, Composite (NTSC, PAL or SECAM) Video, and S-Video (NTSC, PAL or SECAM). Generally all VESA compatible video formats are supported. If a mode isn’t supported, the factory can add special modes. Picture-in Picture (PIP) and Picture-and-Picture (PAP) modes are provided.

2 Specifications

2.1 LCD

Brightness:	75 fl typical, 60 fl minimum	
Contrast Ratio:	800:1 typical, 400:1 minimum	
Dot Pitch:	0.255 mm	
Display Resolution:	1600 x 1200	
Active Display Area:	Horizontal:	16” (408.0 mm)
	Vertical:	12” (306.0 mm)
	Diagonal:	20.1” (510.54 mm)
Viewing Angles:	178° typical, (CR≥10)	

2.2 Inputs

2.2.1 Power

VFP20 models are available to operate from three input power types: AC power, 19-36 VDC power for 24 VDC or 28 VDC operation, and a 12 VDC power version.

2.2.1.1 AC Input

Connector: IEC 60320 C14

Input Voltage: Universal AC Input Range 88-264 VAC

Input Frequency: 47-63 Hz

Input Power: 60 W

2.2.1.2 24 VDC or 28 VDC input

Connector: Monitor: Molex 42179 Plug Housing
Power Cord: Molex # 03-12-1026 Connector
with two # 18-12-1222 Female Terminals for 16-18 AWG Wire

Pin out: Pin 1 is +VDC (Red Wire)
Pin 2 is Power Ground (Black Wire)

Input Voltage: 19 – 36 VDC

Input Power: 60 W

2.2.1.3 12 VDC input

Connector: Monitor: Molex 42179 Plug Housing
Power Cord: Molex # 03-12-1026 Connector
with two # 18-12-1222 Female Terminals for 16-18 AWG Wire

Pinout: Pin 1 is +VDC (Red Wire)
Pin 2 is Power Ground (Black Wire)

Input Voltage: 8 - 18 VDC

Input Power: 60 W

2.2.2 DVI

Connector: Single-Link DVI-D

Bandwidth: Supports up to 160 Mhz operation.

2.2.3 Analog R-G-B

Connector: HD15 female (Standard VGA pin-out)

Bandwidth: Supports up to 165 MHz (UXGA 60 Hz)

Synchronization: Supports separate H & V sync, separate composite sync, and sync on green.

2.2.4 Composite Video

Connector: RCA Jack

Supports NTSC, PAL or SECAM

2.2.5 S-Video

Connector: 4-Pin mini-DIN (Standard S-Video pin-out)

Supports NTSC, PAL or SECAM

2.2.6 RS232

An RS232 interface is provided for remote control. A Windows compatible application program is available from the factory that enables a remote PC to display and manipulate the monitor's On-Screen-Displays. Contact Aydin Displays for information.

3 Front Panel Buttons/On-Screen Display

3.1 Front Panel Buttons

Press SELECT to display the On-Screen-Display (OSD). Use the ADJUST+ and ADJUST- to move the cursor to the desired menu selection and press SELECT to access the adjustment or function. With the EXIT button you can exit the current function and go back to the previous menu point.

3.1 Main Menu

The OSD always starts with the Main Menu.

Main Menu		
Input Select Image Adjustments Color Adjustment Video Settings Scaling Adjustments System Settings	Main Picture Channel Scan Inputs PIP Mode	Main picture channel 1280x1024p@76hz

3.1.1 Input Select – Main Picture Channel

Selects the input source for the Main Picture.

Main Menu		
Input Select	Main Picture Channel	VGA
Image Adjustments	Scan Inputs	Component
Color Adjustment	PIP Mode	√DVI
Video Settings		S-Video
Scaling Adjustments		Composite Video
System Settings		

3.1.2 Input Select – Scan Inputs

When Scan Inputs is on, the Main Display will be the first active input.

Main Menu		
Input Select	Main Picture Channel	
Image Adjustments	Scan Inputs	Off
Color Adjustment	PIP Mode	√On
Video Settings		
Scaling Adjustments		
System Settings		

3.1.3 Input Select – PIP Mode

Selects for a single Main Picture, a Picture in Picture (PIP) or Side by Side in the same fixed size.

Main Menu		
Input Select	Main Picture Channel	
Image Adjustments	Scan Inputs	
Color Adjustment	PIP Mode	√Off
Video Settings	PIP Channel	Small
Scaling Adjustments	PIP hor. Position	Medium
System Settings	PIP ver. Position	Large
	Swap Main & PIP	Side by Side

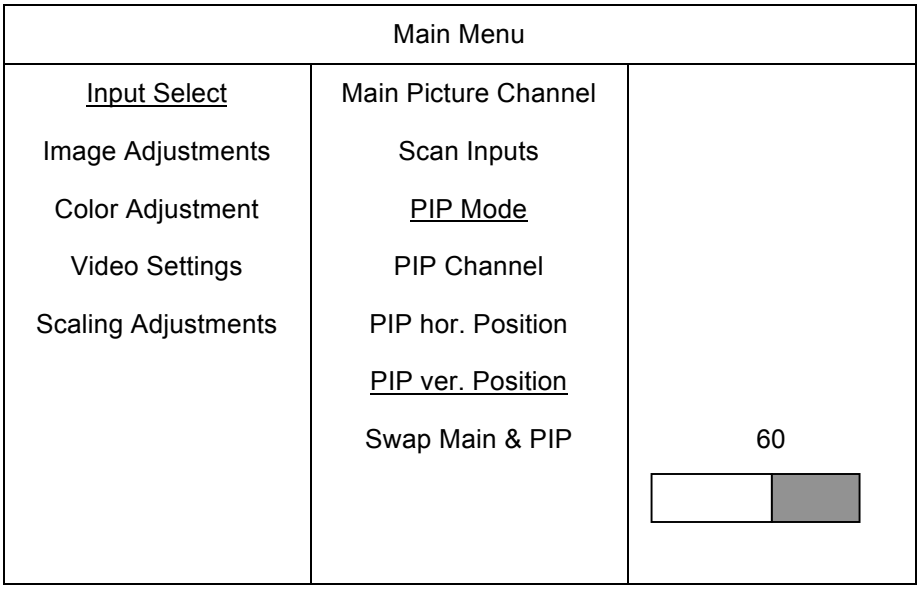
3.1.4 Input Select – PIP Channel

Any input not selected for the Main Picture can be selected for the PIP.

Main Menu		
Input Select	Main Picture Channel	
Image Adjustments	Scan Inputs	
Color Adjustment	PIP Mode	√VGA
Video Settings	PIP Channel	Component
Scaling Adjustments	PIP hor. Position	DVI
System Settings	PIP ver. Position	S-Video
	Swap Main & PIP	Composite Video

3.1.5 Input Select - PIP ver. Position

Adjusts vertical position of PIP.



3.1.6 Input Select – PIP hor. Position

Adjusts horizontal position of PIP.

3.1.7 Input Select – Swap Main & PIP

Each time Swap Main & PIP is selected the input signals for the Main and PIP are switched.

3.2 Image Adjustments

The adjustments provided on the Image Adjustments sub-menu only affect the Main Picture channel, not the PIP. Auto Adjust is pattern sensitive and may not give consistent results.

Main Menu		
Input Select	Auto Adjust	
Image Adjustments		
Color Adjustment	Clock	
Video Settings	Phase	
Scaling Adjustments	Bandwidth	
System Settings	Hor. Position	
	Ver. Position	

3.3 Color Adjustment

The adjustments provided on the Color Adjustment sub-menu only affect the Main Picture Channel, not the PIP, and is only available when VGA is selected for the Main Picture Channel input. It is recommended that all Color Adjustment parameters be left at factory default. Auto Color Adjust is pattern sensitive and may not give consistent results.

Main Menu		
Input Select	Brightness	
Image Adjustments	Contrast	
Color Adjustment	Saturation	
Video Settings	Hue	
Scaling Adjustments	Fleshtone	
System Settings	Backlight	
	Auto Color Adjust	
	Advanced	

3.3.1 Color Adjustment – Advanced

Main Menu		
Input Select	Gamma	
Image Adjustments	Color Space	
Color Adjustment	Color Temp.	
Video Settings	Red	
Scaling Adjustments	Green	
System Settings	Blue	

3.4 Video Settings

This sub-menu is only available when S-Video or Composite Video is selected as the Main Picture Channel input.

Main Menu		
Input Select	Motion Processing	
Image Adjustments	Sharpness	
Color Adjustment	Film Mode	
Video Settings	Noise Reduction	
Scaling Adjustments	Mpeg Processing	
System Settings	Decoder Settings	

3.4.1 Video Settings – Decoder Settings

Main Menu		
Input Select	Video Brightness	
Image Adjustments	Video Contrast	
Color Adjustment	Video Saturation	
Video Settings	Video Hue	
Scaling Adjustments	Video Sharpness	
System Settings		

3.5 Scaling Adjustments

The adjustments provided on the Scaling Adjustments sub-menu only affect the main Picture channel, not the PIP.

Main Menu		
Input Select	Scaling Mode	
Image Adjustments	Picture Flip	
Color Adjustment		
Video Settings	Zoom	
Scaling Adjustments	Hor. Pan	
System Settings	Ver. Pan.	

3.5.1 Scaling Adjustments - Scaling Mode

The Scaling Modes are Expand, Stretch, Aspect and 1:1. Expand is the default.

3.5.2 Scaling Adjustments - Picture Flip

Allows you to flip the Main Picture horizontal or vertical.

3.5.3 Scaling Adjustments – Zoom and Pan

Allows you to magnify and display any portion of the main picture.

3.6 System Settings

Main Menu		
Input Select	OSD Timeout	
Image Adjustments	OSD Hor. Pos.	
Color Adjustment	OSD Ver. Pos	
Video Settings	OSD Blend	
Scaling Adjustments	OSD Orientation	
System Settings	OSD Language	
	Reset to Default	

3.6.1 System Settings - OSD Timeout

OSD Timeout default is 30-seconds. Time should be set between 5 and 60-seconds. Setting the value to 0 will cause the OSD to permanently stay on.

3.6.2 System Settings – OSD Hor. Pos. & Ver. Pos.

Positions the OSD. Default is center screen.

3.6.3 System Settings – OSD Blend

Sets the level of OSD transparency. The level of adjustment is from 0 (solid) to 15 (clear). Default is 3.

3.6.4 System Settings – OSD Orientation

The OSD can be rotated 90°, or flipped horizontally or vertically.

3.6.5 System Settings – OSD Language

The OSD can be displayed in various languages. Default is English.

4 Maintenance

4.1 Preventive Maintenance

The window and exterior surfaces may be cleaned with isopropyl alcohol followed by distilled water rinse, applied with a soft cloth to avoid scratching the anti-reflective coating of the viewing window.

The only periodic maintenance recommended is fan filter cleaning or replacement when necessary. The fan filter is Orion Fans part number M60-30

4.2 Corrective Maintenance

The only field corrective maintenance recommended is fuse replacement. Any other corrective maintenance should be deferred to the depot or factory. The power input module contains two fuses and accepts either ¼" x 1 ¼" or 5 x 20 mm fuses.

The recommended fuse for the AC Input version is:

Description:	Fuse, Glass, 3AG Slo-Blo, 2A/250V
Manufacturer's P/N:	LITTLEFUSE (FSCM 75915) # 313002

The recommended fuse for the DC Input versions is:

Description:	Fuse, Glass, 3AG Slo-Blo, 10A/32V
Manufacturer's P/N:	LITTLEFUSE (FSCM 75915) # 0313010

4.3 Troubleshooting (No Picture)

a) If no front panel indicators are lit the most likely cause is no power input:

1) Is power connected? (Make sure the power cord is fully seated.)
2) Is the POWER switch ON?
3) Is the fuse OK?

b) If the Yellow NO SYNC indicator is lit, most likely the monitor is not receiving a video input or that video input is not selected as the Main Picture Channel Input. (See section 3.1.1)

TOUCH-SCREEN DRIVER INFORMATION:

This information only applies to customers who have ordered a flat panel with a touch-screen installed.

Due to the constantly changing world of PC operating systems, it is recommended by the manufacturer of touch screens to download the latest driver and users manual to insure proper operation and system compatibility. You can locate the touch screen drivers at the following web sites:

Your newly purchased quality AMLCD display is integrated with one of the following Touch Systems. Before installing a new driver, please determine which of these technologies is installed and remove any old drivers to prevent software conflicts.

If you require further assistance, please contact Aydin Displays' Customer Service at 610-404-7400

Based on your model's configuration, refer to this chart to download the applicable driver:

VECTOR
Restive Touch
VFP20-R21-XXX
VFP20-R22-XXX http://home.eeti.com.tw/web20/eg/drivers.htm

Capacitive Touch
VFPXX-C21-XXX
VFPXX-C22-XXX http://solutions.3m.com/wps/portal/3M/en_US/3MTouchSystems/TS/CustomerSupport/TouchDrivers

VECTOR 20 SPECIFICATIONS:

Visual Performance:

Diagonal:	20 inch TFT Active-Matrix LCD
Active Display Area:	Horiz.: 408 mm (16.06") Vert.: 306 mm (12.05")
Pixel Pitch:	0.255 mm
Luminance:	300cd/m^2 (typical)
Contrast Ratio:	800:1 (typical)
Viewing Angle:	+/-89° all directions at CR >10 (typical)
Response Time:	16ms T_r + T_f (typical)

Resolutions Supported:

Generally all VESA compatible video modes are supported. If the input is not supported, "Invalid Mode" will be displayed. The factory can add special modes if required. The following modes have been tested:

720 x 400	@ 70 Hz
640 x 350	@ 70 Hz
640 x 400	@ 70 Hz
640 x 480	@ 60, 72, 72.8, 75, 85 Hz
800 x 600	@ 56.25, 60, 70, 72, 75, 85 Hz
1024 x 768	@ 60, 70, 72, 75, 85 Hz
1152 x 864	@ 75 Hz
1280 x 1024	@ 60, 70, 75, 85 Hz
1600 x 1200	@ 60 Hz

Input Signal:

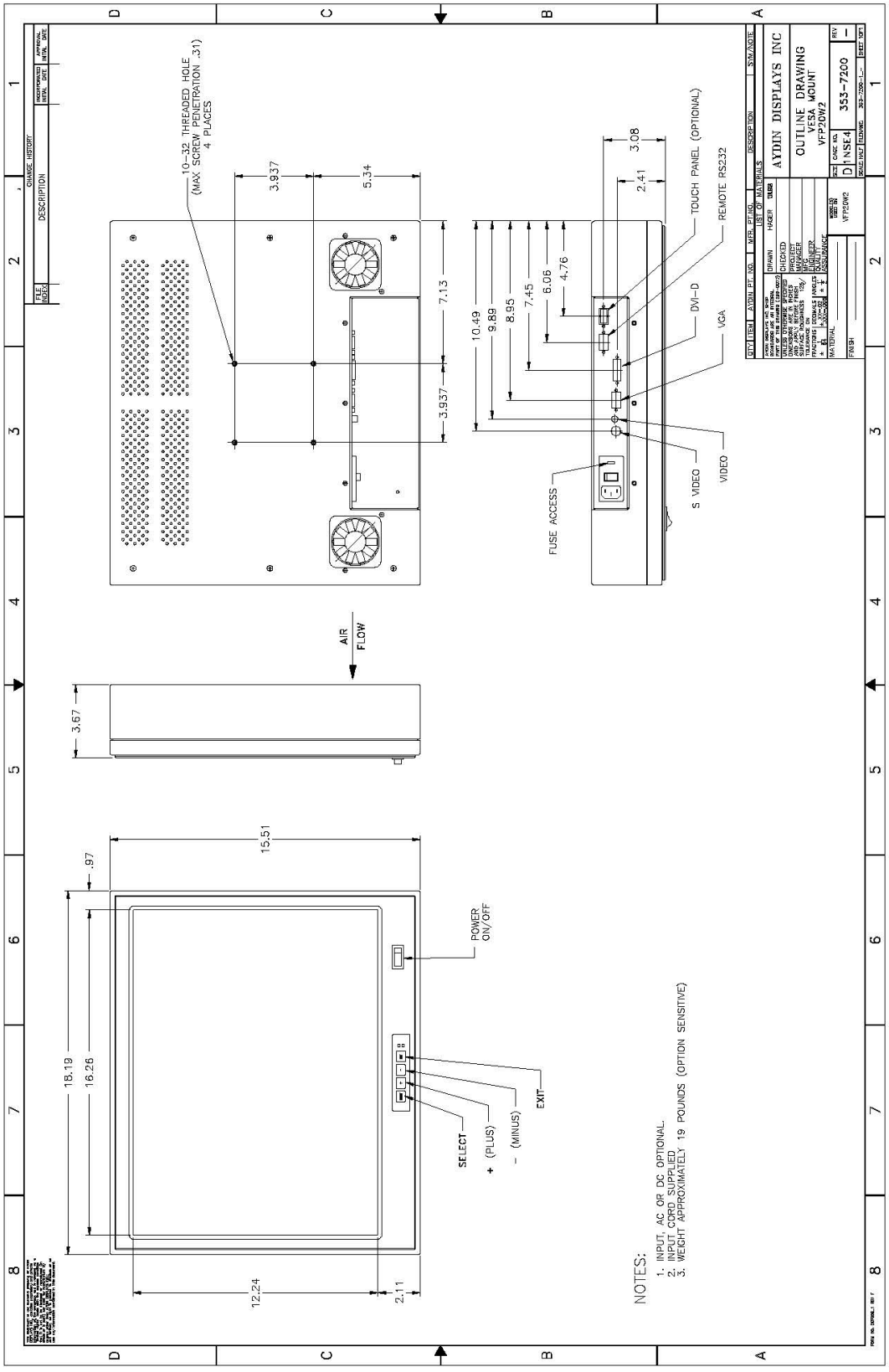
Video:	Analog input, 0.7 Vp-p/75 Ohms Digital input, DVI-D
Analog Video Sync:	Supports separate H & V sync, separate composite sync, and sync on green. Separate sync signals are TTL Level, positive or negative. Sync on Green Video 0.7 Vp-p and sync negative 0.3 Vp-p

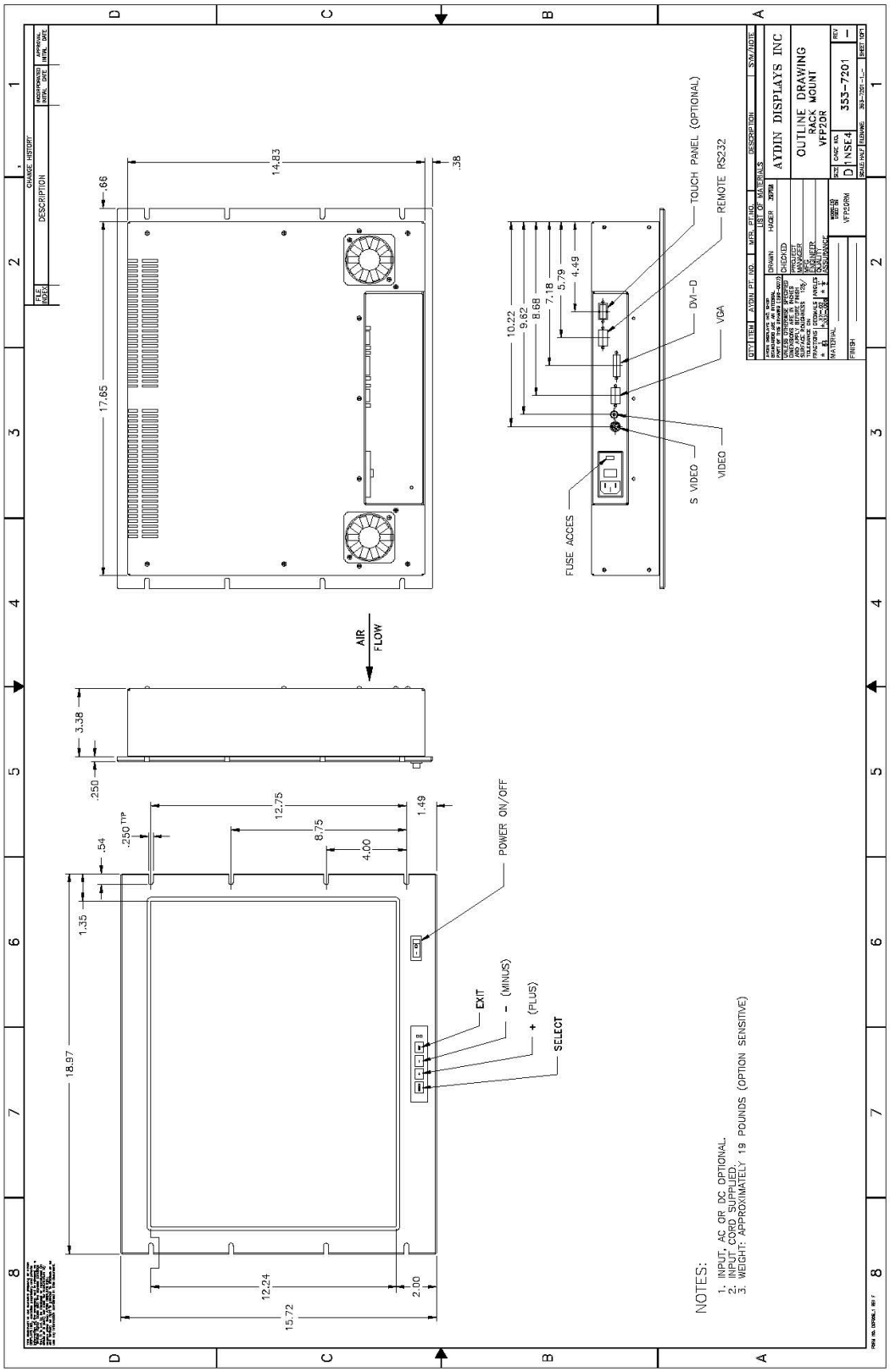
Input Connectors:

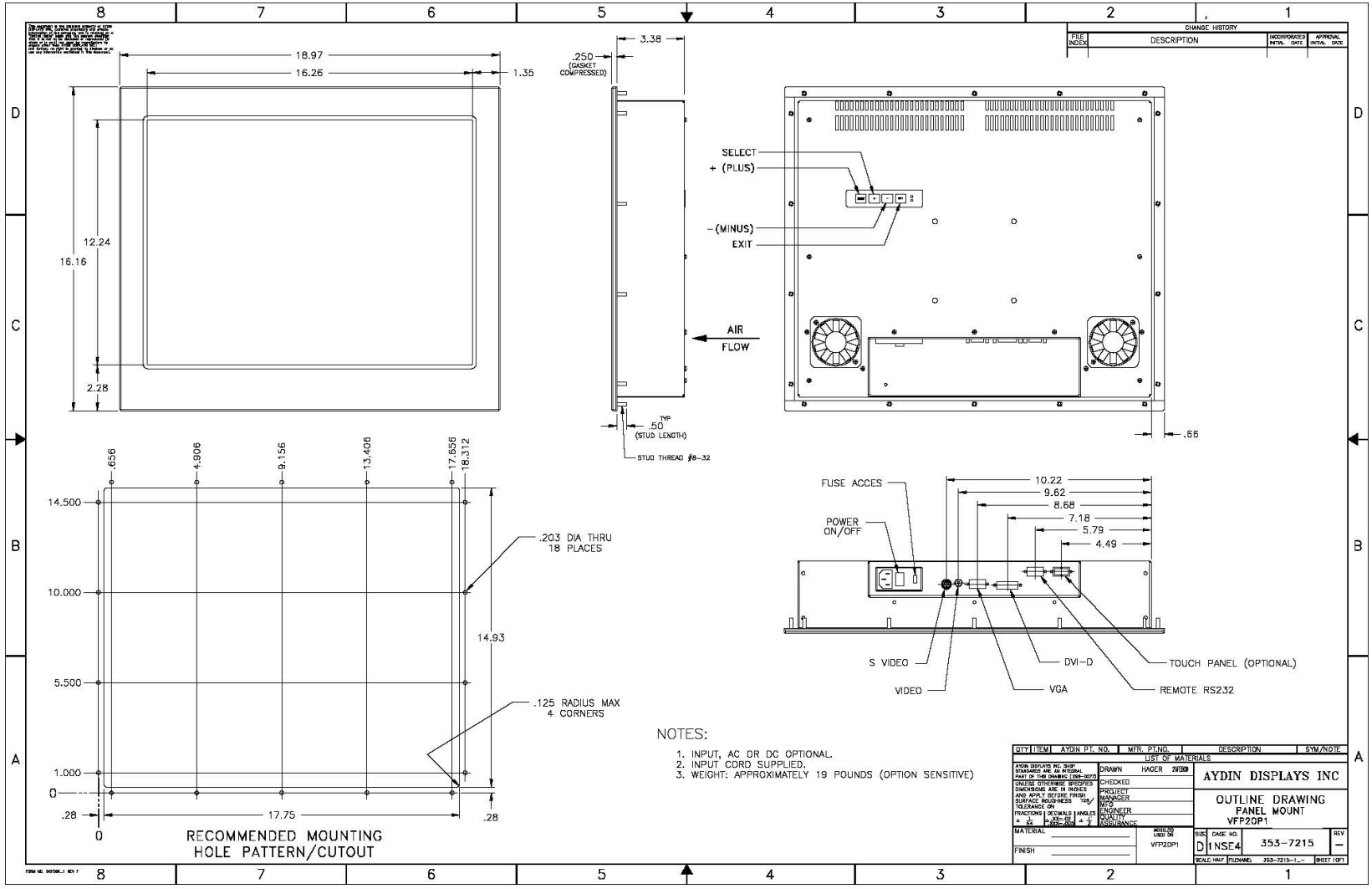
Digital:	Single-Link DVI-D. Supports up to 160 Mhz operation.
Analog R-G-B:	HD15 female (Standard VGA pin-out) Supports up to 165 MHz (UXGA 60 Hz)
Composite Video:	RCA Jack Supports NTSC, PAL or SECAM
S-Video:	4-Pin mini-DIN (Standard S-Video pin-out) Supports NTSC, PAL or SECAM

Environmental:

Operating Temperature:	0°C to 50°C
Storage Temperature:	-20°C to 70°C
Operating Humidity (Non-condensing):	10% to 90%
Storage Humidity: (Non-condensing):	10% to 90%
Operating Altitude:	0 to 12,000 ft
Storage Altitude:	0 to 40,000 ft
Shock:	30G, 11ms, ½ Sine
Vibration:	1G RMS 20-500HZ
Power Supply (AC input version):	Internal Universal AC Input, 88-264 VAC, 47 – 63 Hz
Current Rating:	0.55A at 120VAC nominal
Weight:	21lbs(9.5kg)
Power:	50 Watts nominal


10-32 THREADED HOLE
(MAX SCREW PENETRATION .31)
4 PLACES
3.937
5.34
7.13
3.937
3.08
2.41
10.49
9.89
8.95
7.45
6.06
4.76
TOUCH PANEL (OPTIONAL)
REMOTE RS232
DVI-D
VGA
S VIDEO
VIDEO
FUSE ACCESS
AIR FLOW
3.67
15.51
.97
18.19
16.26
12.24
2.11
POWER ON/OFF
SELECT
+ (PLUS)
- (MINUS)
EXIT
NOTES:
1. INPUT, AC OR DC OPTIONAL.
2. INPUT CORD SUPPLIED
3. WEIGHT APPROXIMATELY 19 POUNDS (OPTION SENSITIVE)
AYDIN DISPLAYS INC
OUTLINE DRAWING
VESA MOUNT
VFP20W2
353-7200
298-7200-1


AIR FLOW
TOUCH PANEL (OPTIONAL)
REMOTE RS232
DVI-D
VGA
S VIDEO
VIDEO
FUSE ACCES
POWER ON/OFF
EXIT
- (MINUS)
+ (PLUS)
SELECT
NOTES:
1. INPUT, AC OR DC OPTIONAL.
2. INPUT CORD SUPPLIED.
3. WEIGHT: APPROXIMATELY 19 POUNDS (OPTION SENSITIVE)
AYDIN DISPLAYS INC
OUTLINE DRAWING
RACK MOUNT
VFP2DR
353-7201
14.83
17.65
18.97
12.24
15.72
12.75
8.75
4.00
10.22
9.82
8.68
7.18
5.79
4.49
3.38
1.35
1.49
2.00


18.97
16.26
1.35
12.24
16.16
2.28
3.38
.250
(GASKET COMPRESSED)
.50
(STUD LENGTH)
TYP
STUD THREAD #8-32
SELECT
+ (PLUS)
– (MINUS)
EXIT
AIR
FLOW
.66
.656
4.906
9.156
13.406
17.656
18.312
14.500
10.000
5.500
1.000
0
.28
17.75
14.93
.203 DIA THRU
18 PLACES
.125 RADIUS MAX
4 CORNERS
RECOMMENDED MOUNTING
HOLE PATTERN/CUTOUT
FUSE ACCES
POWER
ON/OFF
10.22
9.62
8.68
7.18
5.79
4.49
S VIDEO
VIDEO
VGA
DVI-D
TOUCH PANEL (OPTIONAL)
REMOTE RS232
NOTES:
1. INPUT, AC OR DC OPTIONAL.
2. INPUT CORD SUPPLIED.
3. WEIGHT: APPROXIMATELY 19 POUNDS (OPTION SENSITIVE)
CHANGE HISTORY
FILE INDEX
DESCRIPTION
INCORPORATED INITIAL
DATE
APPROVAL INITIAL
DATE
QTY
ITEM
AYDIN PT. NO.
MFR. PT.NO.
DESCRIPTION
SYM/NOTE
LIST OF MATERIALS
DRAWN
HAGER
CHECKED
PROJECT MANAGER
MFG ENGINEER
QUALITY ASSURANCE
MATERIAL
FINISH
MODULE(S) USED ON
VFP20P1
AYDIN DISPLAYS INC
OUTLINE DRAWING
PANEL MOUNT
VFP20P1
SIZE
D
CAGE NO.
1NSE4
353-7215
REV
–
SCALE: HALF
FILENAME
353-7215-1_–
SHEET 1 OF 1